

Claims

1. A method for producing a semiconductor chip, comprising:

5 applying a photothermal conversion layer comprising a light-absorbing agent and a heat decomposable resin on a light-transmitting support, provided that upon irradiation of radiation energy, said photothermal conversion layer converts the radiation energy into heat and decomposes due to the heat,

10 preparing a semiconductor wafer having a circuit face with a circuit pattern and a non-circuit face on the side opposite said circuit face, laminating said semiconductor wafer and said light-transmitting support through a photocurable adhesive by placing said circuit face and said photothermal conversion layer to face each other, and irradiating light from said light-transmitting support side to cure the photocurable adhesive layer, thereby forming a laminated body having a non-circuit face on the outside surface,

15 grinding the non-circuit face of said semiconductor wafer until said semiconductor wafer reaches a desired thickness,

dicing the ground semiconductor wafer from the non-circuit face side to cut it into a plurality of semiconductor chips,

20 irradiating radiation energy from said light-transmitting support side to decompose said photothermal conversion layer, thereby causing separation into semiconductor chips having said adhesive layer and a light-transmitting support, and optionally

removing said adhesive layer from said semiconductor chips.

25 2. The method for producing a semiconductor chip as claimed in claim 1, wherein a die bonding tape is affixed to the semiconductor wafer before dicing the ground semiconductor wafer.

30 3. The method for producing a semiconductor chip as claimed in claim 1 or 2, wherein said photothermal conversion layer contains carbon black.

4. The method for producing a semiconductor chip as claimed in claim 3, wherein said photothermal conversion layer further contains a transparent filler.

5. The method for producing a semiconductor chip as claimed in any one of claims 1 to 4, wherein laminating said semiconductor wafer and said light-transmitting support through a photocurable adhesive is performed in a vacuum.

5 6. The method for producing a semiconductor chip as claimed in any one of claims 1 to 5, wherein said semiconductor wafer is ground to a thickness of 50 μm or less.

7. The method for producing a semiconductor chip as claimed in any one of claims 1 to 6, wherein said photocurable adhesive layer has a storage modulus of
10 5×10^8 Pa or more after curing.

8. The method of any of claims 1-7, wherein dicing is performed while recognizing scribe lines, and with alignment via light capable of passing through a) the light-transmitting support and photothermal conversion layer from said light-transmitting
15 support side or b) the semiconductor wafer from the non-circuit side.